## -continued

Tyr	Asn	Asn 595	Gly	Ile	Phe	Ile	Asp	Thr	Ala	Ala	Gln	Phe 605	Gly	His	Tyr
Ser	Asn 610	Thr	Ala	Asp	Val	Arg 615	Leu	Met	Asn	Gly	Gly 620	Gly	Thr	Ile	Lys
Ala 625	Asp	Phe	Asn	Thr	Asn 630	Gly	Phe	Gly	Ala	Met 635	Val	ГÀа	Gly	Gly	Tyr 640
Thr	Trp	Lys	Asp	Gly 645	Asn	Gly	Leu	Phe	Ile 650	Gln	Pro	Tyr	Ala	Lys 655	Leu
Ser	Ala	Leu	Thr 660	Leu	Glu	Gly	Val	Asp 665	Tyr	Gln	Leu	Asn	Gly 670	Val	Asp
Val	His	Ser 675	Asp	Ser	Tyr	Asn	Ser 680	Val	Leu	Gly	Glu	Ala 685	Gly	Thr	Arg
Val	Gly 690	Tyr	Asp	Phe	Ala	Val 695	Gly	Asn	Ala	Thr	Val 700	ГÀа	Pro	Tyr	Leu
Asn 705	Leu	Ala	Ala	Leu	Asn 710	Glu	Phe	Ser	Asp	Gly 715	Asn	ГÀа	Val	Arg	Leu 720
Gly	Asp	Glu	Ser	Val 725	Asn	Ala	Ser	Ile	Asp 730	Gly	Ala	Ala	Phe	Arg 735	Val
Gly	Ala	Gly	Val 740	Gln	Ala	Asp	Ile	Thr 745	Lys	Asn	Met	Gly	Ala 750	Tyr	Ala
Ser	Leu	Asp 755	Tyr	Thr	Lys	Gly	Asp 760	Asp	Ile	Glu	Asn	Pro 765	Leu	Gln	Gly
Val	Val 770	Gly	Ile	Asn	Val	Thr 775	Trp								

- 1. An isolated antibody or antigen binding fragment thereof comprising:
  - a) a CDRH3 comprising the sequence set forth in SEQ ID NO: 5 or a CDRL3 comprising the sequence set forth in SEQ ID NO: 8; or
  - b) a CDRH3 comprising the sequence set forth in SEQ ID NO: 17 or a CDRL3 comprising the sequence set forth in SEQ ID NO: 20,
  - optionally, wherein the isolated antibody or antigen binding fragment comprises:
  - a) a CDRH1 comprising the sequence set forth in SEQ ID NO: 3;
    - a CDRH2 comprising the sequence set forth in SEQ ID NO: 4:
    - a CDRH3 comprising the sequence set forth in SEQ ID NO: 5;
    - a CDRL1 comprising the sequence set forth in SEQ ID NO: 6;
    - a CDRL2 comprising the sequence set forth in SEQ ID NO: 7; and
    - a CDRL3 comprising the sequence set forth in SEQ ID NO: 8; or
  - b) a CDRHI comprising the sequence set forth in SEQ ID NO: 15;
    - a CDRH2 comprising the sequence set forth in SEQ ID NO: 16;
    - a CDRH3 comprising the sequence set forth in SEQ ID NO: 17;
    - a CDRL1 comprising the sequence set forth in SEQ ID NO: 18;
    - a CDRL2 comprising the sequence set forth in SEQ ID NO: 19; and

- a CDRL3 comprising the sequence set forth in SEQ ID NO: 20.
- 2-5. (canceled)
- **6**. An isolated antibody or antigen binding fragment thereof comprising:
  - a) a VH comprising the sequence set forth in SEQ ID NO:
    9 or a sequence having at least 90% identity to SEQ ID NO:
    9, and a VL comprising the sequence set forth in SEQ ID NO:
    10 or a sequence having at least 90% identity to SEQ ID NO:
    10; or
  - b) a VH comprising the sequence set forth in SEQ ID NO: 21 or a sequence having at least 90% identity to SEQ ID NO: 21, and a VL comprising the sequence set forth in SEQ ID NO: 22 or a sequence having at least 90% identity to SEQ ID NO: 22.
  - 7-9. (canceled)
- 10. An isolated antibody or antigen binding fragment thereof comprising:
  - a CDRH1 comprising the sequence set forth as formula (I)

$$YTFTX_1YWX_2X_3$$
 (I);

a CDRH2 comprising the sequence set forth as formula (II)

$$WIGNIX_4PX_5X_6GX_7X_8NY (II)$$

a CDRH3 comprising the sequence set forth as formula (III)

$$RX_{9}GX_{10}X_{11}RAMDY \tag{III)};$$

a CDRL1 comprising the sequence set forth as formula (IV)

$$QSVX_{12}X_{13}DVA \hspace{1.5cm} (IV);\\$$